



**Region 6 Enforcement and Compliance
Assurance Division
INSPECTION REPORT**

Inspection Date(s):	01/23/2023 - 01/27/2023	
Media Program:	Air	
Regulatory Program(s)	Clean Air Act (CAA) § 112(r) and 40 Code of Federal Regulations (C.F.R.) Part 68 Chemical Accident Risk Management Plan (RMP) Program 3	
Company Name:	The Premcor Refining Group Inc.	
Facility Name:	Valero Port Arthur Refinery	
Facility Physical Location:	1801 S. Gulfway Drive	
(city, state, zip code)	Port Arthur, Texas 77640	
Mailing address:	1801 S. Gulfway Drive	
(city, state, zip code)	Port Arthur, Texas 77640	
County/Parish:	Jefferson	
Facility Contact:	Clint Mitchell	Health Safety & Environment Director
	Clint.Mitchell@valero.com	
FRS Number:	110000464006	
Identification/Permit Number:	Federal Operating Permit O1498	
Media Identifier Number:	RMP 1000 0011 6634	
NAICS:	32411 – Petroleum Refineries	
Personnel participating in inspection: See Inspection Report pp. 1 – 2.		
EPA Lead Inspector Signature/Date		
	Tony Robledo	
Supervisor Signature/Date		
	Samuel Tates	

**US EPA REGION 6
CLEAN AIR ACT SECTION 112(r)
INSPECTION REPORT**

Stationary Source	Valero Refining – Port Arthur, Texas
Date of Inspection	23–27 January, 2023
USEPA Contact	Tony Robledo, U.S. EPA Region 6
Description of Activities	Inspection included the following activities: • Opening conference with facility representatives • On-site document review • Field verification • Personnel interviews • Closing meeting with facility representatives
Inspection Participants	U.S. EPA • Tony Robledo, Region 6 • Craig Haas, Headquarters Eastern Research Group, Inc. (ERG) • Dan Roper • Marissa Maier
Facility Participants	Mark Skobel, Plant Manager Steve Cary, Operations Director Clint Mitchell, Health, Safety, and Environmental (HSE) Director Tracey Mercy, Process Safety Manger Brad Guidry, Environmental Supervisor Derek Bessler, Environmental Manager Bruce King, Safety Manager Jerome Delafosse, Human Resources Director Jim Rollans, Maintenance Director Harrison Hobbs, Associate Process Safety Engineer Chris Turbeville, Technical Director Jace Raney, Optimization Director Jeremy McDuffie, United Steel Workers (USW) Union Safety Jason Hufstetler, USW Process Safety Management (PSM) Representative Joe Nichols, Inspection Manager Steve Evans, Refinery Controller Joe Szabo, PSM Engineer Drake Thibodaux, Supply Chain Manager Chuck Elizondo, Asset Superintendent Michael McClurg, Engineering Superintendent Tom Berres, Complex Manager Conner Wood, Process Engineer Robert Lewis, Asset Superintendent Ray Grew, Complex 2 Manager

	Marcus Campbell, Superintendent Emergency Services
Facility Participants (continued)	Shawn Pichoff, Training Supervisor
	Billy Canan, Chief Inspector
	Selah Parra, Reliability Manager
	Aubrey Milstead, Manager Control
	Zachery Julius, Senior Metallurgist

Stationary Source Information

USEPA Facility ID #	1000 0011 6634
Most Recent Submission	20 December 2018
Facility Location	1801 South Gulfway Drive Port Arthur, Texas 77640
Lat / Long	29.873056, –93.993306
Number of Employees	808
Description of Surrounding Area	The facility is located in an industrial area.

FACILITY/PROCESS DESCRIPTION

The Valero Port Arthur Refinery (the Facility or Valero) is located approximately 10 miles north of the Gulf of Mexico on the Sabine-Neches ship channel. The Facility was originally constructed in 1901. It is currently owned by The Premcor Refining Group Inc. (Premcor), which is a subsidiary of Valero Energy Corporation. Premcor (previously Clark Oil) purchased the refinery from Chevron in 1995. The Valero Port Arthur Refinery is approximately 3,840 acres in size. The process units, tank farms, roadways, and railways occupy approximately 1,450 acres, while the fresh water and water treatment reservoirs occupy another 1,060 acres. Approximately 1,150 acres of the property is undeveloped for industrial use.

The Facility employs approximately 800 persons. Embedded contractors provide maintenance and specialty services that supplement Valero staff capabilities. The refinery operates 24 hours per day, 7 days per week and follows the Dupont shift schedule for operations. The United Steel Workers (USW Local 13-423 Plant Group), United Steel Workers Clerical (USW Local 13-423 Office Group), International Association of Machinists and Aerospace Workers (IAMAW Lodge 823), and International Brotherhood of Electrical Workers (IBEW Local Union No. 2286) unions represent employees at the Facility.

The Facility has the capacity to process approximately 424,000 barrels per day (bpd) of intermediate and crude oils into various fuel products, including gasoline, kerosene, and diesel fuel. The refinery can process light, medium, and heavy crude stocks, including those containing high sulfur levels (sour crude). Crude is delivered to the refinery via rail, vessel (at the marine docks), and pipeline. Gasoline, diesel, and other finished products are sent off-site by pipeline and vessel.

The refinery is divided into six complexes, each of which encompasses multiple operating units. Individual units are operated from dedicated control rooms, located near the operating units within the refinery. The Facility does not have a central control room.

The Facility reported 25 RMP-covered processes (all RMP Level 3) in its most recent RMP submission, dated December 20, 2018, and summarized in Table 1, below.¹ The refinery has eleven flares that are used to control hydrocarbon emissions from various processing units. Most flares are served by a flare gas recovery system (FGRS) that captures hydrocarbons before combustion so that only excess amounts of hydrocarbons reach the flares. The Alky Flare is not served by FGRS. Water for the refinery's fire suppression system is pulled from canals surrounding the refinery by diesel-driven firewater pumps. Water for the vapor suppression system is pulled from tanks, which are supplied by clarified water, and can be supplemented by the firewater header, if needed.

Table 1. RMP Covered Processes for the Refinery

Process ID	Process Name	Program Level	Chemical	Quantity (lbs)	Category
1000075861	Hydrocracking Unit 942	3	Flammable Mixture	300,000	Flammable
1000075862	Sat Gas Recovery 1242	3	Flammable Mixture	760,000	Flammable
1000075863	Atmos/Vac Crude Unit 146	3	Flammable Mixture	110,000	Flammable
1000075864	Hydro Treaters 241 & 242	3	Flammable Mixture	200,000	Flammable
1000075865	Gasoil Hydro Treater 245	3	Flammable Mixture	170,000	Flammable
1000075866	Sat Gas Recovery 7945	3	Flammable Mixture	520,000	Flammable
1000075867	Hydrocracking Unit 943	3	Flammable Mixture	720,000	Flammable
1000075868	Fluid Cat Cracking 1241	3	Flammable Mixture	1,400,000	Flammable
1000075869	Cat Reforming Unit 1344	3	Flammable Mixture	410,000	Flammable
1000075871	Diesel Hydro Treater 246	3	Flammable Mixture	130,000	Flammable
1000075872	HF Acid Alky Unit 443	3	Flammable Mixture	1,100,000	Flammable
		3	Hydrofluoric acid (conc 50% or greater)	360,000	Toxic
1000075873	441 TF Spheres	3	Isobutane	6,500,000	Flammable
1000075874	138 PH Storage	3	Flammable Mixture	36,000,000	Flammable
1000075876	Diesel Hydro Treater 243	3	Flammable Mixture	65,000	Flammable
1000075877	Delayed Coking Unit 843	3	Flammable Mixture	1,300,000	Flammable
1000075887	Gasoil Hydrotreater 244	3	Flammable Mixture	87,000	Flammable
1000075889	Light Hydro Sep Unit 6341	3	Isobutane	210,000	Flammable
1000075890	Mercaptan Unit 7542	3	Flammable Mixture	57,000	Flammable
1000075891	Flare 13	3	Flammable Mixture	80,000	Flammable
1000075892	Flare 15 KO Drum	3	Flammable Mixture	61,000	Flammable

¹ The Facility does not consider the sulfur recovery units (SRU 544 and 543) and associated flares, the docks, the wastewater treatment ponds, or the north and south tank farms to be RMP-covered processes.

Process ID	Process Name	Program Level	Chemical	Quantity (lbs)	Category
1000075893	Flare 18	3	Flammable Mixture	62,000	Flammable
1000075894	Flare 20	3	Flammable Mixture	62,000	Flammable
1000075895	Flare 23	3	Flammable Mixture	160,000	Flammable
1000076030	Flare 26	3	Flammable Mixture	770,000	Flammable
1000093340	Butane Rail Loading 8844	3	Flammable Mixture	4,700,000	Flammable

Due to limited time available for the inspection, the EPA inspection team focused on the following process units:

- Hydrofluoric Acid Alkylation (HF Alky) Unit 443 [RMP Process ID 1000075872];
- Fluidized Catalytic Cracking (FCC) Unit 1241 [RMP Process ID 1000075868]; and
- 138 Pumphouse (138 PH) [RMP Process ID 1000093340].

The EPA inspection team selected these units because they represent the worst-case flammable and toxic release scenarios used in the Facility's offsite consequence analysis. Additionally, in June 2021, a pump seal failed in the hydrocracking unit 942 (RMP Process ID 1000075861), resulting in a fire. The EPA inspection team reviewed the incident/investigation report and interviewed facility personnel to gather additional information regarding the incident.

PURPOSE OF THE INSPECTION

EPA inspected the Port Arthur refinery from January 23 through January 27, 2023, and focused on the Facility's implementation of and compliance with the requirements of CAA § 112(r) Accidental Release Provision and RMP rule. While at the refinery, the inspection team performed a field walkdown of the HF Alky unit, FCC unit, and the 138 Pumphouse (including the three butane spheres), conducted interviews with refinery representatives, and requested documents for review.

In preparation for the inspection, Tony Robledo of U.S. EPA Region 6 sent an electronic notice of inspection and request for information (RFI) to Clint Mitchell, the Valero Port Arthur HSE Director, on January 11, 2023. The RFI included a list of documents that the inspection team intended to review upon their arrival at the Facility on January 23, 2023. EPA's correspondence also requested that Valero inform employee representatives of the inspection and invite them to participate as required by CAA § 112(r)(6)(L). Mr. Mitchell confirmed receipt of the notice of inspection on behalf of the Valero Port Arthur refinery on January 11, 2023.

OPENING MEETING

EPA Inspectors, Tony Robledo and Craig Haas, initiated the opening meeting at approximately 8:00 am on Monday, January 23, 2023, by introducing the members of the inspection team and explaining the purpose and scope of the inspection. They discussed the expected logistics of each day, including interviews with personnel, documentation requests, a driving tour of the refinery, and walkthroughs of the HF Alky, FCC, and 138 PH processes. The opening meeting included Valero representatives who also participated throughout the inspection.

INSPECTION OVERVIEW

Valero representatives provided a brief overview of the entire refinery as well as specific details about the operation of the HF Alky, FCC, and 138 PH processes. The Facility coordinated a driving tour of the refinery to help familiarize the inspection team with the physical layout of the Facility and equipment. The inspection team met with Valero personnel to discuss the Facility's implementation of and compliance with the requirements of CAA § 112(r) RMP and discuss the operation and maintenance of various process units. The inspection team also completed walkthroughs of the FCC, HF Alky (battery limit), and 138 PH processes.

While on-site, the inspection team requested additional documentation to support the Facility's implementation of CAA § 112(r) RMP requirements at the selected operating units. The Inspection Document Review/Request List (see Attachment 1) recorded each document identified for further review by the inspection team. The inspection team provided a copy of the document request list to Valero at the conclusion of the inspection. The inspection team has since received the documents requested during the inspection.

FIELD OBSERVATIONS

On Monday, January 23, 2023, refinery representatives provided a driving tour of the entire refinery to the EPA inspection team. On Wednesday, January 25, 2023, refinery representatives escorted EPA inspectors to the FCC unit, the HF Alky battery limits, and the butane spheres located in the 138 PH process area. During the January 25, 2023, walkthrough, EPA inspectors took a total of 10 photographs of process equipment. These photographs and a photograph log are provided as Attachment 2. Observations made during the walkthrough of the processing units include:

- There were multiple instances where piping within the FCC, HF Alky, and 138 PH units was not labeled to indicate pipe contents or direction of flow (for example, see Photographs 1 through 3 and 5 through 9).
- Piping and pipe components within the 138 PH unit had signs of exterior rust and the exterior coating on the TK-2155 butane sphere was damaged/missing in areas, exposing the underlying insulation (see Photographs 5 through 10).
- The EPA inspection team observed differences between piping and instrumentation diagrams (P&IDs) and the equipment observed in the field, specifically:
 - Drawing #1241\PID\A046-R36 (see Bates No. VALERO-PA-EPA-RMP-002529) shows two three quarter-inch gate valves on the horizontal line off the main fractionator bottoms going to the pressure indicator. There was only one gate valve present in the field (see Photograph 4).
 - Drawing #PH138\PID\A012 (see Bates No. VALERO-PA-EPA-RMP-002759) indicates one two-inch gate valve on line #3 B-1215-16 from the isobutane manifold to TK-2155. Two gate valves were present in the field (see Photograph 7).

DOCUMENTATION REVIEW

During and immediately following the inspection, Valero representatives provided documentation to the EPA inspection team related to implementation of the refinery's RMP program. The following provides a summary of this documentation.

40 CFR § 68.10 – Applicability

Valero prepared a list of 51 refinery units/processes and the specific rationale for why each unit was or was not defined as an RMP process. The applicability analysis considered the quantity of flammable and/or toxic chemicals in the process relative to RMP regulatory threshold quantities (See Bates No. VALERO-PA-EPA-RMP-000586 through 000591).

According to Valero's applicability analysis and 2018 RMP submission, the HF Alky is the only RMP covered process for toxics. The Facility's Title V Permit indicates that Valero controls nitrogen oxide (NO_x) emissions from the HCU 943 using selective catalytic reduction (SCR) with ammonia injection (see Bates No. VALERO-EPA-RMP-000005 through 000584). Valero indicated that it has 18,128 lbs of 19.4% aqueous ammonia associated with the HCU 943. Aqueous ammonia solutions at concentrations less than 20% are not considered to be RMP covered chemicals. Valero also indicated that it has 66,055 lbs of 29.4% aqueous ammonia (19,156 lbs of ammonia) in the AVU 146; however, the threshold for ammonia in aqueous solution, at concentrations greater than 20%, is 20,000 lbs.

40 CFR § 68.15 - Management Systems

Valero has developed a management system to oversee the implementation of the P3 prevention program elements. This management system assigns a qualified RMP/PSM coordinator supported directly by the Port Arthur Refinery Vice President and General Manager. An organizational chart shows the positions responsible for each RMP element and the reporting structure to the RMP coordinator and the Refinery Vice President and General Manager (See Bates No. VALERO-PA-EPA-RMP-000004).

40 CFR § 68.22 - Offsite Consequence Analysis

The Facility used EPA's Offsite Consequence Analysis (OCA) Tables to model the worst-case (WCS) and alternative release (ARS) scenarios for toxics from RMP-covered processes. The Facility modeled one toxic WCS for a release of hydrogen fluorid (HF) acid based on a complete failure of the acid storage tank (80% HF acid and 20% hydrocarbons), which contains the HF acid during unit shutdown. The WCS assumes complete vaporization of the tank contents within 10 minutes. Offsite impacts for the WCS extend to a distance of 25 miles and impact both public and environmental receptors (See Bates No. VALERO-PA-EPA-RMP-005105). The Facility considered one alternative release scenario involving an HF release from a 3/8-inch hole in a 2-inch HF acid tank truck unloading hose. For this scenario, the Facility assumed that the operator and/or tank truck driver would remotely activate the HF acid isolation valves within 20 seconds of the release and that the water spray mitigation system would eliminate 90% of the released HF acid vapors. Offsite impacts from this ARS are limited to industrial receptors (See Bates No. VALERO-PA-EPA-RMP-005111).

The Facility also used EPA's OCA Tables to model the WCS and ARS for flammables. The WCS for flammables involves the rupture of one of the three butane spheres (e.g., TK-2154) at the 138 PH (RMP Process ID 1000093340). The butane was assumed to fill the Pump House to capacity, causing the Pump House to rupture and release a butane and isobutane mixture that, in turn, generates a vapor cloud explosion. Per EPA guidance, no mitigation measures were assumed for the WCS. Offsite impacts extend to a distance of 1.56 miles and impact public and environmental receptors (See Bates No. VALERO-PA-EPA-RMP-00506 through 005108).

40 CFR § 68.42 – Five Year Accident History

Valero reported one accident in their December 2018 RMP submittal. That accident occurred in the HF Alky unit on May 10, 2015. The Facility indicated that it has not had a reportable release in the last five years.

News reports indicate that there was a fire at the Facility in June 2021 and EPA requested documentation related to this incident. The resulting incident report indicated that, at approximately 11:30 am on June 10, 2021, a seal failed on a diesel product pump in the hydrocracker unit (HCU 942), causing a fire and equipment damage (See Bates No. VALERO-PA-EPA-RMP-000649). The Facility claimed that this incident did not involve the release of any RMP-covered chemicals and did not update its RMP submission following the incident. The Facility discovered the fire at approximately 12:15 pm and notified the National Response Center (NRC) at 12:43 pm local time (13:43 ET). The facility provided emissions data for carbon monoxide, particulate matter, volatile organic compounds, nitric oxides, hydrocarbons/oil, and sulfur dioxide to both the NRC and the Texas Commission on Environmental Quality (TCEQ) (see Bates No. VALERO-PA-EPA-RMP-002453 through 002459).

40 CFR § 68.65 - Process Safety Information (PSI)

Valero maintains process safety information for the entire refinery on their intranet site, which is accessible to all Facility employees. Process safety information includes block flow diagrams and P&IDs of each process unit; a description of safety systems, including fixed water suppression systems for firefighting and chemical releases; safety data sheets (SDS) for all chemicals used on site; design information for safety relief valves; operating envelopes for various parameters (e.g., temperature and pressure); and consequences of operating outside operating envelopes. Prior to the inspection, EPA requested block flow diagrams of the HF Alky, FCC, and 138 PH units along with specific P&IDs to ensure accuracy by field verification. EPA also requested formal documentation of the operating envelopes and consequences of deviation for the HF Alky, FCC, and 138 PH units to verify consistency with set points and alarms in the console control system. EPA also used these documents to help verify that the steps undertaken to correct deviations were consistent with operating procedures.

Valero indicated that it uses various codes and standards depending on the process, equipment, and unit. Based on discussions with the HF Alky unit Asset Superintendent and the Complex Manager, the Facility follows the American Petroleum Institute's (API) Recommended Practice 751 for the Safe Operation of Hydrofluoric Acid Alkylation Units. Valero provided the January 2020 API 751 Audit Questionnaire checklist (see Bates No. VALERO-PA-EPA-RMP-006837 through 006851). The Facility developed this questionnaire based on the minimum requirements provided in the 4th Edition of API 751 (2013) (denoted using "shall"). The questionnaire does not

include the API 751 recommendations that are advised but not required (denoted using “should”).

There were several items on the Facility’s 2020 checklist that Valero did not indicate it had completed by marking “yes”, “no”, or “N/A.” For example, the Facility’s response to Questions 23, 72, 100, 101, 102, 110, and 111 are incomplete (i.e., Valero did not check “yes”, “no”, or “N/A”). As a result, the Facility does not appear to have completed its 2020 API 751 questionnaire.

Additionally, Valero indicated that it did not meet the API requirements for the following questions:

- Q #16: Where on-site buildings are used for temporary shelter-in-place, do shelter-in-place procedures exist to guide personnel in entering and securing the shelters?
- Q #17: Where on-site buildings are used for temporary shelter-in-place, do shelter-in-place procedures include a process for periodically checking each temporary shelter location to ensure the equipment is being properly maintained?
- Q #18: Where shelter locations are designated as a "safe haven," are written procedures available to guide personnel in activating the safe haven mode?
- Q #19: Where shelter locations are designated as a "safe haven," is the equipment required to implement the Safe Haven procedures maintained?
- Q #36: Does the laboratory provide a designated area for storing, handling, and analyzing HF-containing samples such as isobutane recycle and ASO?
- Q #62: Regardless of the classification used, does the minimum requirement for planned work activity when exposure to HF vapor is expected and where there is potential for exposure to liquid HF include the requirement of a totally enclosed chemical-resistant suit with self-contained breathing apparatus (SCBA) or with air-line-fed respirator with escape pack?
- Q #73: Have comprehensive written maintenance procedures been developed aimed at preserving the alkylation unit's mechanical integrity?
- Q #134: Are safety systems in place to minimize the significant hazard of operational issues allowing significant quantities of HF into the alumina and/or alkali treater?

Following the inspection, Valero provided a 2019 API RP 751 Questionnaire Recommendation/Finding Response Closure table with a description of the actions taken to resolve audit findings through 2/28/2023 (see Bates No. VALERO-PA-EPA-RMP-006901 through 006902). During the finding closure process, some findings were determined to be inapplicable. For findings that were applicable, Valero resolved audit findings through revisions to emergency response/evacuation procedures and HF laboratory practice procedures, as well as through the implementation of action items from the 2019 HF Alky PHA, which were completed during the 2022 turnaround.

40 CFR § 68.67 - Process Hazard Analysis (PHA)

The refinery conducts both initial and revalidation PHAs according to their PHA procedure dated May 1, 2017 (See Bates No. VALERO-PA-EPA-RMP-001912 through 001935). The PHA procedure includes an option for conducting PHAs using either a Hazard and Operability (HAZOP) Study, What-if Analysis, or Checklist Analysis. The PHA procedure includes guidance on the items that should be addressed in a PHA (e.g., facility siting via a checklist), information that should be used during a PHA, how to select appropriate PHA team members, and management review of PHA findings. Valero's PSM manager indicated that PHAs for most major process units are conducted using HAZOP with elements of a Layers of Protection Analysis (LOPA) and are facilitated by specialized third-party contractors.

The PHA procedure includes requirements to analyze each possible process deviation to identify any credible causes and significant consequences. The severity of a deviation, without the engineering design and procedural safeguards, is ranked on a scale from 1 to 4. The safeguards that are in place to control any hazardous consequence of the deviation are identified and the likelihood of an incident occurring is ranked on a scale from A to E. The severity and likelihood are then combined into a risk ranking using a matrix. If the consequence is determined to be a significant hazard and the existing safeguards are deemed insufficient to control the hazard, recommendations are made to improve safety. Valero communicates PHA recommendations in site-wide bulletins delivered via email and completed PHA reports and supporting documentation are available on Valero's intranet. The Facility assigns due dates to action items resulting from PHA recommends and tracks their completion electronically (VALERO-PA-EPA-003108). EPA reviewed the last two PHAs for the HF Alky, FCC, and 138 PH to confirm that the Facility is revalidating PHAs every five years and promptly addressing PHA findings/recommendations.

40 CFR § 68.69 - Operating Procedures

The Facility has developed written operating procedures for each of the refinery operating units that include written instructions to safely startup, shutdown, and maintain normal operations. Operating procedures also include steps for emergency situations. Upon request, Valero provided a list of operating procedures for the HF Alky, FCC, and 138 PH units. EPA specifically reviewed the Facility's Procedures for:

- Emergency Shutdown of R-201 Selective Hydrogenation and Isomerization Unit (VALERO-PA-EPA-RMP-005116 through 005119)
- Emergency Procedure for HF Acid Runaway (VALERO-PA-EPA-RMP-005120 through 005124)
- Emergency Shutdown/Unit Trip of the FCC Unit (VALERO-PA-EPA-RMP-006651 through 006669)

The reviewed operating procedures did not directly address operating limits, consequences of deviation, and steps required to correct/avoid deviation. However, the Facility maintains a separate spreadsheet, called an Operating Limits Matrix, with this information in Valero's electronic operating procedure tracking system, PolicyTech. Additionally, the reviewed

operating procedures did not address safety systems and their functions. And, other than a brief description of Personal Protective Equipment (PPE) requirements (e.g., “general PPE”, “Class ‘D’ HF PPE”), the operating procedures did not provide specific chemical safety information, instead referencing other procedures, including #11-04 Minimum Personal Protection, #11-41 Handling Hydrofluoric Acid, #11-58 Fall Protection.

As mentioned above, Valero maintains operating procedures electronically using PolicyTech and operators are required to access and print operating procedures from PolicyTech before implementing them. Individual control rooms maintain hard copies of emergency operating procedures in red binders. The asset superintendents are responsible for updating the binders, as necessary. Operators receive electronic notifications when there are revisions to the operating procedures for their unit, and operators are required to electronically certify that they have reviewed the revised procedures. The asset superintendents and complex managers review the operating procedures for their units at least annually and the complex managers certify operating procedures at the beginning of each calendar year. Valero provided documentation of the two most recent annual certifications of the operating procedures for the HF Alky, FCC, and 138 PH (VALERO-PA-EPA-RMP-004729 through 004885).

The inspection team has identified AOCs at the end of this inspection report for this program element.

40 CFR § 68.71 - Training

Valero has a corporate Basic Operator Training (BOT) program for all new potential refinery operators. BOT is a 10-week course provided by the refinery’s Technical Training Department that provides an overview of the refinery, various operating units, safety systems, and equipment. During the 10-week BOT, new prospective operators receive training in a classroom setting and complete written examinations to assess understanding. Following the 10-week BOT course, Valero identifies individuals with the potential to become operators and assigns these individuals to a specific operating unit, where they receive unit-specific training. During unit-specific training, the individual completes various written modules and shadows a trainer (on-the-job training) to learn specific tasks and operating procedures. Unit-specific written examinations measure progress. Once training is complete, the individual is given a position as an outside operator. Outside operators can train to become console operators by shadowing an assigned console operator trainer, studying operating procedures, and eventually passing a written exam.

Valero requires operators to complete refresher trainings every 3 years. Refresher training is administered on-line through the refinery’s intranet and the Technical Training Department sends a 90-day look ahead email to the operators to remind them their refresher training is due. Refresher training exam questions are operating unit specific and are developed by the supervisors in consultation with the training department. EPA inspectors reviewed training records for select operators in the FCC, HF Alky, and 138 PH units to confirm that Valero is administering and tracking operator training per internal policy and 40 CFR § 68.73 (see Bates No. VALERO-PA-EPA-RMP-00561 through 006150, VALERO-PA-EPA-RMP-006152 through 006406).

In addition to operator training, employees are required to complete corporate health and safety training as well as other training modules to meet regulatory requirements. Training is

administered through computer modules as well as in person. The Training Department is responsible for retaining employee training records and tracking training requirements.

40 CFR § 68.73 - Mechanical Integrity

Valero has Preventative Maintenance Program Guidelines to document its approach to preventative and predictive maintenance for the Port Arthur Refinery. These Guidelines dictate that preventative maintenance follow an established workflow. Reliability Engineers and Instrument/Electrical/Rotating Equipment Specialists evaluate equipment according to corporate, API, and site-specific standards using a Failure Mode and Effects Analysis (FMEA) methodology as a guideline (see Bates No. VALERO-PA-EPA-RMP-001621 through 001634).

Valero also has a Refinery Inspection Manual that outlines the systems, procedures, and programs for the inspection of fixed equipment at the Facility (See Bates No. VALERO-PA-EPA-RMP-001635 through 001673). Inspection of fixed equipment is performed by a team of API 510/570 certified inspectors and inspection data is entered into the Plant Condition Management Software (PCMS).

Fixed Equipment

In 2013/2014, the Facility implemented a Risk Based Inspection (RBI) program for fixed equipment that considers the probability and consequences of failure (criticality rating) as well as the underlying damage mechanisms. The criticality rating and damage mechanism(s) determine the specific inspection strategy and inspection plan for a given piece of equipment. The RBI frequency for on-stream, non-destructive evaluation (NDE) inspections of pressure vessels and piping is determined by the corrosion rate and the predicted remaining equipment life calculated by the PCMS RBI program.

When the Facility began implementing its RBI program, Valero began with addressing past-due inspections for pressure vessels with a focus on evaluating newly identified damage mechanisms. In 2017/2018, the facility began implementing its RBI program on process piping. However, at the time of the EPA inspection, there were 52 pipe segments in the FCC unit, 40 pipe segments in the HF Alky unit, and 15 pipe segments in the PH 138 unit that were overdue for inspection based on the Facility's PCMS RBI program (see Bates No. VALERO-PA-EPA-RMP-005052 through 005053, 005082, and 005091). The Facility's inspection manager estimated that it had a 3-year backlog on past-due piping inspections at the time of EPA's inspection.

EPA inspectors observed damage to the protective coating covering the FOAMGLAS® One™ insulation on TK-2155 during the field inspection. Upon request Valero provided documentation of the most recent internal and external inspections of the butane spheres (TK-2154, TK-2155, TK-2156) in the 138 PH.

- HMI conducted an AP1 653 internal/external inspection of TK-2154 in February 2018, which found the tank to be in acceptable condition (see Bates No. VALERO-PA-EPA-RMP-006577 through 6640). Per HMI recommendations, Valero conducted a visual external inspection of TK-2154 in September 2022 (see Bates No. VALERO-PA-EPA-RMP-006474 through 6475). However, this inspection does not appear to have involved Shell Ultrasonic (UT) testing per HMI recommendations (i.e., UT testing by Feb. 2023).

- The last internal inspection of TK-2155 occurred in March 2014 and involved UT testing and Magnetic Flux Leakage (MFL) scanning. The tank was found to be in serviceable condition (see Bates No. VALERO-PA-EPA-RMP-006410). In October 2017, Ebenn Crumpler/QualSpec performed an external visual inspection of the tank with an emphasis on corrosion under insulation (CUI). Insulation in suspect areas was removed for visual inspection and follow-up UT, radiographic, or pit gauge testing. The inspection noted surface oxidation, but no measurable pitting, leakage, or mechanical damage (see Bates No. VALERO-PA-EPA-RMP-006670 through 006679). The last visual external inspections of TK-2155 occurred in March 2018 and December 2022. Both inspections noted areas of exposed insulation due to damaged/missing insulation cover and corrosion of the tank supports. The 2022 inspection recommended repairs to the tank's insulation covering at the next opportunity. Both inspections found the tank to be in serviceable condition (VALERO-PA-EPA-RMP-006492 through 006496). Valero produced a work order for insulation repairs and CUI testing, which appears to have been approved on January 25, 2023, while EPA was present onsite (see Bates No. VALERO-PA-EPA-RMP-006823).
- The last internal inspection of TK-2156 occurred in July 2014 and involved UT testing and MFL scanning. Insulation was removed from the entire top head and stair treads to evaluate potential CUI. The tank was found to be in acceptable condition (see Bates No. VALERO-PA-EPA-RMP-006413 through 6415). The last visual eternal inspection found TK-2156 to be fully insulated but noted that the insulation was saturated with moisture and had mildew and isolated areas of vegetation growth. The tank was found to be in serviceable condition (see Bates No. VALERO-PA-EPA-RMP-006417 through 006420).

Rotating Equipment

Valero has a series of Rotating Equipment Reliability Standards and Procedures for pumps, compressors, fans, and turbines (see Bates No. VALERO-PA-EPA-RMP-001718 through 001911). Equipment inspections are performed on a time-based frequency per the manufacturers' recommendations and the refinery's historical inspection data. The SAP system to develop work orders. Valero's corporate mechanical integrity program also provides the refinery with a list of "bad actors" which helps prioritize inspection and maintenance frequency.

Instrumentation

Valero has a Corporate Process Safety Standard for the Maintenance of Critical Instrumentation, which defines expectations of how/when to test critical instruments (VALERO-PA-EPA-RMP-001676 through 001691). Valero provided a Critical Instrument List for its HF Alky Unit, which indicates that it tests its Boreal Laser open path HF acid detectors (six detectors situated along the battery limit) and point HF acid detectors quarterly (see Bates No. VALERO-PA-EPA-RMP-006830).

The inspection team has identified AOCs at the end of this inspection report for this program element.

40 CFR § 68.75 - Management of Change (MOC)

Valero has implemented an electronic MOC (eMOC) system at the Port Arthur refinery for managing changes to process chemicals, process technology, equipment, and procedures that affect processes. The Facility's MOC standards cover the definition, evaluation, approval, implementation, and documentation of permanent, temporary, and emergency changes. These standards are intended to address the federal requirements for the Process Safety Management and Risk Management Plan programs (See Bates No. VALERO-PA-EPA-RMP-001937 through 001969). Temporary changes, including clamps, wraps, and temporary hoses, are reviewed at least annually and are addressed no later than the next turnaround period. Valero uses Emergency MOCs for changes needed in critical situations where the time delay required for a permanent MOC could result in a safety hazard, significant environment or equipment damage, or loss of production. For emergency MOCs, the Shift Supervisor is responsible for conducting the Pre-Startup Safety Review (PSSR) and forwarding it to the MOC Champion or Asset Superintendent.

The eMOC form includes the technical basis for the change and any necessary modifications to operating procedures, training, and documentation (e.g., P&IDs). The form also documents the review and approval process for the change. MOCs are assigned to an MOC Champion that is responsible for driving the MOC process through completion. The MOC Champion is also responsible ensuring the completion of pre-work, attaching MOC documentation, determining the make-up of the MOC Review Team, completing the PSI checklist, and initiating the PSSR by informing the PSSR Team Lead when the change is complete in the field. The MOC Review Team conducts the initial MOC review to determine if sufficient information is available to review and approve the proposed change, coordinate a hazard review, and identify the subject matter expert (SME) and PSSR team, as appropriate. The SME reviews the technical, environmental, safety, reliability, and operability issues related to the proposed change (See Bates No. VALERO-PA-EPA-RMP-001937 through 001969).

40 CFR § 68.77 - Pre-Startup Safety Review (PSSR)

Valero requires the completion of a PSSR checklist before MOC changes are approved and placed into service. The PSSR Team reviews and field verifies that changes were installed as approved in the MOC and circles back with the MOC champion if there are any deviations from the original design. The PSSR Team also verifies that appropriate training requirements have been identified and that notifications are complete. Any identified post-startup action items are tracked to completion before closing the eMOC (See Bates No. VALERO-PA-EPA-RMP-001937 through 001969).

40 CFR § 68.79 - Compliance Audits

Valero most recently conducted RMP compliance audits of the Port Arthur refinery in October 2017 and September 2020. The audit team was comprised of personnel from Valero's corporate office and other Valero refineries and led by the corporate Senior Manager of Process Safety Audits. The 2017 compliance audit identified six findings: three related to MI, one related to operating procedures, one related to PHAs, and one related to PSI (see Bates No. VALERO-PA-EPA-RMP-002084 through 002092). The 2020 compliance audit was conducted remotely, and did not identify any repeat findings; however, one finding from 2017 was still outstanding. The

2020 audit identified six findings: two related to emergency planning/response and four related to MI (See Bates No. VALERO-PA-EPA-RMP-002093 through 002103). The 2020 compliance audit found that the Facility Response Plan (FRP) did not address site security and control at a hazmat emergency scene within a unit and that it did not have a written Hazmat Team PPE program. The 2020 audit also identified a finding related to eye exams for API inspectors and demonstrating that API 510 and 570 inspectors had the visual acuity necessary to perform assigned inspection tasks. Additionally, the audit had several mechanical integrity findings related to thickness reading records for pressure vessels in the SGRU 7945 and HCU 943 and the deferral of overspeed trip tests for turbines beyond their original deferral dates. Finally, the facility was continuing to inspect soil-to-air interface locations per the 2017 compliance audit recommendations (See Bates No. VALERO-PA-EPA-RMP-002093 through 002103).

40 CFR § 68.81 - Incident Investigation

Valero has an incident investigation procedure that covers incidents subject to RMP as well as other less severe incidents (e.g., near misses, personnel safety). The Facility uses a cause map tool or a Five-Whys approach to determine how the incident could have been prevented. The Facility tracks incident investigations, including causes and corrective actions in an electronic management system.

EPA inspectors reviewed Valero's Incident Investigation for the fire that occurred on the diesel product pump in the HCU 942 on June 10, 2021. The incident report included the date of the incident, a description of the incident, the factors that contributed to the incident, and recommendations resulting from the investigation; however, it did not include the date the investigation began. This information is tracked electronically in the Facility's electronic management system. The investigation found that the thrust bearing on the diesel pump failed abruptly, likely due to a lubrication failure from a failed seal within the oil mister that provides lubrication to the bearing. During the EPA inspection Valero employees pulled up electronic records to allow the inspection team to confirm that it tracked and completed the three findings/action items that resulted from the investigation.

Inspectors also reviewed an incident investigation report from a HF acid leak from a condensate drum vent pipe on a depropanizer reboiler within the HF Alky unit that occurred in September 2019 (VALERO-PA-EPA-RMP-005621). One of the findings from the incident investigation was that the E-19A bundle in the tube and shell heat exchanger was not replaced although it had been identified as "likely to fail before 2020 outage" by a previous incident investigation conducted in 2016/2017. Valero noted that it would "move forward to get replacement bundles on site as soon as possible (VALERO-PA-EPA-RMP-005621)." Valero had not followed this action to completion when the E-19A bundle leaked in September 2019.

EPA reviewed several additional incident investigation reports for incidents involving the FCC and HF Alky unit (see Bates No. VALERO-PA-RMP-005618 through 637). The incident investigation reports themselves did not clearly identify the dates when the incident investigations began, nor did they provide evidence that the findings were reviewed by all personnel whose job tasks were affected by the findings.

The inspection team has identified AOCs at the end of this inspection report for this program element.

40 CFR § 68.83 - Employee Participation

Valero has an employee participation plan that outlines current practices for employee participation in various PSM elements as outlined in the RMP regulation (See Bates No. VALERO-PA-EPA-RMP-002106 through 002112). This procedure includes employee participation in the development and validation of PSI and operating procedures and participation in incident investigations, PHAs, and the MOCs/PSSR process. Additionally, employees participate in periodic safety meetings and operators are encouraged to identify and report any identified issues. The Facility also has a Contractor Accident Reduction Team consisting of first line supervisors and a Safety Excellence and Leadership Team to further the partnership between Valero and contractor personnel and reduce accidents (See Bates No. VALERO-PA-EPA-RMP-002118 through 002119).

Interviews with Facility personnel and union representatives during the inspection verified that operators are encouraged to participate in PHAs when they are conducted within their operating unit. Completed PHAs are available to employees through the refinery's intranet system. Additionally, union representatives confirmed that employees have the occasional opportunity to participate in incident investigations; however, senior management has ultimate control over incident investigation findings.

40 CFR § 68.85 - Hot Work Permits

Valero has developed and implemented a hot work program for both low energy and high energy hot work that could potentially result in an ignition source. High energy hot work includes welding, grinding, disc cutting, and brazing, whereas low energy hot work includes the use of non-intrinsically safe electronics (See Bates No. VALERO-PA-EPA-RMP-001596 through 001613). Hot work requirements include isolating equipment from flammable/combustible material, blinding product lines, and/or blocking/bleeding piping on both sides of the work area. For high energy hot work, Valero requires continuous atmospheric gas testing and a trained fire watch (See Bates No. VALERO-PA-EPA-RMP-001596 through 001613). Hot work permits are covered under the Facility's general work permitting program (See Bates No. VALERO-PA-EPA-RMP-001596 through 001613). Work permits are issued/tracked through an electronic system.

Trained operators from the unit where the hot work will occur are responsible for completing and electronically signing the hot work permit. The worker and/or contractor responsible for completing the hot work must also electronically sign the permit. Each worker involved in the hot work signs a paper copy of the permit in the field. The operator that issued the hot work permit is responsible for closing the permit either at the end of his/her shift or when the work has been completed.

40 CFR § 68.87 – Contractors

Valero requires contractors to subscribe to ISNetworld (ISN), a third-party contractor safety data management provider, to become qualified to perform work at the refinery. Contractors that request to work at the refinery must receive an ISN Dashboard Grade of "B" or better based on criteria including experience, citations, fatalities, recordable incident rate, information provided in the Valero qualifications questionnaire, and their written safety program. If a contractor's

Dashboard Grade drops to a “C” after the contract award, the contractor will be placed on a 30-day probation. The contractor must meet with the Business Unit Manager during this probationary period to obtain authorization to continue work (VALERO-PA-EPA-002138 through 002152).

Valero has training requirements for contractors, which include the Association of Reciprocal Safety Council’s (ARSCO) “Basic Plus” or “Basic Plus Refresher” training and a Valero Port Arthur Site-Specific training administered by the Industrial Safety Training Counsel in Nederland or Baytown, Texas. Additional training may be required (e.g., HF acid safety) depending upon the type of work tasks that the contractor is expected to perform (VALERO-PA-EPA-002138 through 002152).

Valero evaluates select embedded contractors on a quarterly basis to evaluate and review safety programs using the Contractor Safety and Health Performance Review (VALERO-PA-EPA-RMP-002123).

40 CFR § 68.95 - Emergency Response

The Valero Port Arthur refinery is a responding facility and has the capability to address emergency situations including fires, chemical releases, and medical emergencies involving Valero employees and on-site contractors. The refinery has nine full-time emergency response personnel in their firehouse, including trained emergency medical technicians (EMTs). The refinery also has sixty-six volunteer fire fighters and an on-site nurse located in the refinery medical clinic.

The Port Arthur refinery is a member of the Sabine-Neches Chiefs Association, which is a local mutual aid organization consisting of municipal firefighters, municipal police officers, emergency medical services personnel, and first responders from industrial facilities, including pipeline companies, refineries, and petrochemical facilities. Onsite firefighting equipment includes fixed water cannons located throughout the refinery, diesel driven firewater pumps, fire trucks, and firefighting PPE. All responders attend firefighter training at Texas A&M Fire School and other locations annually.

The HF Alky unit has a mitigation system and water curtain which run off of pumps connected to the fire water tanks and a deluge system that runs off the fire water header. The Asset Superintendent of the HF Alky unit indicated that Valero tests its fire monitors and deluge system monthly and conducts a full wet test of their water curtain quarterly.

Valero maintains an emergency response plan, which outlines the Facility’s internal/external notification procedures, response actions, responder responsibilities, and vulnerabilities (see Bates No. VALERO-PA-EPA-RMP-000663 through 001575).

40 CFR § 68.195 - Risk Management Plan

Valero submitted its most recent RMP to EPA in December of 2018. EPA conducted a completeness check on the Facility’s RMP submission in 2020. Valero is required to submit a five-year update in December of 2023.

CLOSE OUT MEETING

Prior to the close out meeting, EPA inspectors discussed EPA's outstanding document requests and the expected timeline for Valero to provide this documentation to EPA. Inspectors Haas and Robledo initiated the close out meeting at 8:30 am on Friday, January 27, 2023. They stated that the inspection team would not discuss any areas of concern until all the requested documents had been provided and the inspection team had time to adequately review the information.

Inspectors Haas and Robledo discussed the estimated timeframe for delivering the inspection report to Valero and the expected coordination between EPA and Valero. There were no questions from the Valero personnel, and they adjourned the close out meeting around 9:00 am.

Valero delivered the documentation that EPA requested prior to the inspection via a secured web link on January 23, 2023. EPA requested additional documents during the inspection, which Valero delivered in two separate productions on January 25 and 31, 2023. EPA sent Valero two follow-up information/document requests via email on February 24 and 28, 2023. Valero responded to both requests on March 3, 2023.

AREAS OF CONCERN

1. **Safety Information, 40 CFR § 68.48(b)** – *The owner or operator shall ensure that the process is designed in compliance with recognized and generally accepted good engineering practices. Compliance with Federal or state regulations that address industry-specific safe design or with industry-specific design codes and standards may be used to demonstrate compliance with this paragraph.*
 - There were multiple instances where piping in the HF Alky, FCC, and PH 138 units was not labeled to indicate pipe contents and direction of flow per ANSI/ASME A13.1 (for example, see Photographs 1 through 3 and 5 through 9).
2. **Process Safety Information, 40 CFR § 68.65(d)(1)(ii)** – *information pertaining to the equipment in the process shall include: ... (ii) piping and instrumentation diagrams.*
 - The EPA inspection team observed differences between P&IDs and equipment in the field, specifically the following:
 - o Drawing #1241\PID\A046-R36 (see Bates No. VALERO-PA-EPA-RMP-002529) shows two three quarter-inch gate valves on the horizontal line off the main fractionator bottoms going to the pressure indicator. There was only one gate valve present in the field (see Photograph 4).
 - o Drawing #PH138\PID\A012 (see Bates No. VALERO-PA-EPA-RMP-002759) indicates one two-inch gate valve on line #3 B-1215-16 from the isobutane manifold to TK-2155. Two gate valves were present in the field (see Photograph 7).
3. **Process Safety Information, 40 CFR § 68.65(d)(2) & (d)(3)** – (2) *The owner or operator shall document that equipment complies with recognized and generally accepted good engineering practices. (3) For existing equipment designed and*

constructed in accordance with codes, standards, or practices that are no longer in general use, the owner or operator shall determine and document that the equipment is designed, maintained, inspected, tested, and operating in a safe manner.

- Valero did not complete all items on its 2020 API 751 Audit Questionnaire Checklist for the HF Alky unit, conducted to satisfy the requirements of API RP 751 (2013), Section 1.2.1.

4. Operating Procedures, 40 CFR § 68.69(a)(2) – *The owner or operator shall develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and shall address at least the following elements. ... (2) Operating limits: (i) Consequences of Deviation; and (ii) Steps required to correct or avoid deviation.*

- The reviewed operating procedures for the FCC and HF Alky units did not directly address operating limits, consequences of deviation, and steps required to correct/avoid deviation. The Facility does, however, maintain a separate spreadsheet with this information in Valero’s electronic operating procedure tracking system, PolicyTech.

5. Operating Procedures, 40 CFR § 68.69(a)(3) – *The owner or operator shall develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and shall address at least the following elements. ... (3) Safety and health considerations: (i) Properties of, and hazards presented by, the chemicals used in the process; (ii) Precautions necessary to prevent exposure, including engineering controls, administrative controls, and personal protective equipment; (iii) Control measures to be taken if physical contact or airborne exposure occurs; (iv) Quality control for raw materials and control of hazardous chemical inventory levels; and, (v) Any special or unique hazards.*

- Other than a brief description of Personal Protective Equipment (PPE) requirements (e.g., “general PPE”, “Class ‘D’ HF PPE”), the operating procedures did not provide specific chemical safety information, instead referencing other procedures, including #11-04 Minimum Personal Protection, #11-41 Handling Hydrofluoric Acid, #11-58 Fall Protection.

6. Mechanical Integrity 40 CFR § 68.73(d) – *Inspection and testing. (1) Inspections and tests shall be performed on process equipment. (2) Inspection and testing procedures shall follow recognized and generally accepted good engineering practices.*

- The Facility implemented a Risk Based Inspection (RBI) program for fixed equipment in 2014. Valero initially focused on past-due inspections for pressure vessels, based on newly identified damage mechanisms. In 2018, the facility turned its attention to piping. However, at the time of the EPA inspection in January 2023, there were more than 50 pipe segments in the FCC, 40 pipe segments in the HF Alky, and 15 pipe segments in the 138 PH unit that were overdue for inspection based on the Facility’s RBI program (see Bates No.

VALERO-PA-EPA-RMP-005052 through 005053, 005082, and 005091). The Facility's inspection manager estimated that it had a 3-year backlog on past-due piping inspections at the time of the EPA inspection.

7. Incident Investigation, 40 CFR § 68.81(d) – *A report shall be prepared at the conclusion of the investigation which includes at a minimum: ... (2) the date the investigation began; ... and (5) any recommendations resulting from the investigation.*

- The reviewed incident investigation reports do not provide the date when the investigation was initiated.

8. Incident Investigation, 40 CFR § 68.81(e) – *The owner or operator shall promptly address and resolve the investigation findings and recommendations. Resolutions and corrective actions shall be documented.*

- Valero does not appear to have followed all action items from the 2016/2017 incident investigation (ID 36712) to completion. In particular, there is no indication that Valero had ordered/obtained replacement bundles when the E-19A bundle failed on September 20, 2019, resulting in an HF release.

9. Incident Investigation, 40 CFR § 68.81(f) – *The report shall be reviewed with all affected personnel whose job tasks are relevant to the incident findings including contract employees where applicable.*

- The reviewed incident investigation reports do not provide confirmation that the reports are reviewed by and/or with all affected personnel relevant to the incident.

LIST OF ATTACHMENTS

Attachment 1: Document Request List

Attachment 2: Photographs and Photograph Log

Dan Roper
Dan Roper, ERG

March 27, 2023 .
Date

Marissa Maier
Marissa Maier, ERG

March 27, 2023 .
Date



DOCUMENT REVIEW/REQUEST LIST

U.S. ENVIRONMENTAL PROTECTION AGENCY

Region VI

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) § 103;
Emergency Planning and Community Right-to-Know Act (EPCRA) §§ 302-312; and
Clean Air Act § 112r Risk Management Program (CAA RMP)

DATE/TIME: January 23-27, 2023, 08:00	FACILITY NAME: Valero Refining – Port Arthur
INSPECTOR NAME: Tony Robledo, EPA Region 6 (Dallas, TX)	FACILITY ADDRESS: 1801 S. Gulfway Dr. Port Arthur, TX 77640

The following documents were reviewed and/or requested during the inspection unless indicate otherwise. If none of the boxes in the table are checked, the document was only reviewed onsite by the inspection team.

Item No.	Document Date	Document Description	Reviewed Prior to Site Visit	Provided for Onsite Review	Send a Copy to EPA
46		INCIDENT REPORTS FOR: 397131, 442387, 361890, 419935, 450493 1/23/23	☐	☐	☒
47	P2	OPERATING PROCEDURE 0443-EP-4717 R-201 1/23/23	☐	☐	☒
48	P2	0443-EP-4732 1/23/23	☐	☐	☒
49	P2	PHA worksheets for HF alky, FCCU PH-138 1/24/23	☐	☐	☒
50		Training records for Keith Johnson (HF alky), Terrell Ross (PH-138), Donovan Colbert (FCCU) 1/24/23	☐	☐	☒
51		Testing records (visual, non-destructive) inspection for butane spheres 1/24/23	☐	☒	☐
52	nop/ P2	plot plan w/adequate resolution to identify vessel/equip labels 1/24/23	☐	☐	☒
53	P2	PHA worksheets (most recent for HF alky, FCCU, PH138) 1/25/23	☐	☐	☒
54		FCCU emergency shutdown operating proc. 1241 EPA701 1/25/23	☐	☐	☒
55		previous most recent CUI inspection for TK2155 1/25/23	☐	☐	☒
56		Work order 7386 following external insp. of TK2155 1/25/23	☐	☐	☒
57		high energy hot permit 1/25/23	☐	☐	☒
58		Quarterly testing records for Borealis laser HF detectors 1/26/23	☐	☐	☒
59		Quarterly testing records for Point HF detectors 1/26/23	☐	☐	☒
60		2016 incident investigations 362712 + attachments 1/26/23	☐	☐	☐

34185



DOCUMENT REVIEW/REQUEST LIST
U.S. ENVIRONMENTAL PROTECTION AGENCY
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Item No.	Document Date	Document Description	Reviewed Prior to Site Visit	Provided for Onsite Review	Send a Copy to EPA
61		2020 API TSI inspection for HF alkyl unit assessment 1/26/23	☐	☐	☒
62		MOC for clamp BC-160936 into Butane v401 to T3 (ARN) 1/26/23	☐	☐	☒
63			☐	☐	☐
64			☐	☐	☐
65			☐	☐	☐
66			☐	☐	☐
67			☐	☐	☐
68			☐	☐	☐
69			☐	☐	☐
70			☐	☐	☐
71			☐	☐	☐

INSPECTOR SIGNATURE

RECIPIENT SIGNATURE

NAME: Tony Robledo

NAME:

TITLE:

DATE SIGNED:

TITLE:

DATE SIGNED:

Photolog

Valero Port Arthur Refinery

Inspection Date: January 23 - 27, 2023

Photographer: Craig Haas, U.S. EPA

Original Image Storage: CD in Report file

No. of Images: 10

Camera: iCAM501U

Photo	Image ID	Description
1	09572-25023023	Water leaking from Pump 1280 in FCCU
2	101558-25023023	Piping marked for service off Pump 1280 in FCCU
3	101617-25023023	Piping marked for service off Pump 1280 in FCCU
4	102024-25023023	Bottom of main fractionator in FCCU
5	114143-25023023	Pipe rack off butane sphere (Tank 2155)
6	114157-25023023	Pipe rack off butane sphere (Tank 2155)
7	114792-25023023	Bottom of butane sphere (Tank 2155)
8	114843-25023023	Bottom of butane sphere (Tank 2155)
9	114851-25023023	Bottom of butane sphere (Tank 2155)
10	120020-25023023	Top of butane sphere (Tank 2155)